

**What is claimed is:**

1           1.    A complex antenna apparatus, comprising:  
2           a base having a central through hole;  
3           a circular polarization antenna disposed on the base  
4           and having a hollow feeding portion  
5           corresponding to the central through hole; and  
6           a capacitance (inductance) cylinder loading monopole  
7           antenna disposed in the central through hole of  
8           the base via the hollow feeding portion of the  
9           circular polarization antenna.

1           2.    The complex antenna apparatus as claimed in  
2           claim 1, wherein the capacitance (inductance) cylinder  
3           loading monopole antenna further comprises a monopole  
4           linear antenna and a conductive element covering the  
5           monopole linear antenna.

1           3.    The complex antenna apparatus as claimed in  
2           claim 2, wherein the capacitance (inductance) cylinder  
3           loading monopole antenna further comprises a dielectric  
4           disposed between the conductive element and monopole  
5           linear antenna.

1           4.    The complex antenna apparatus as claimed in  
2           claim 1, wherein the base further comprises a ground  
3           formed thereunder.

1           5.    The complex antenna apparatus as claimed in  
2           claim 1, wherein the circular polarization antenna is  
3           circular.

1           6. The complex antenna apparatus as claimed in  
2 claim 1, wherein the circular polarization antenna is  
3 rectangular.

1           7. The complex antenna apparatus as claimed in  
2 claim 1, further comprising an RF module connected to the  
3 circular polarization antenna and capacitance  
4 (inductance) cylinder loading monopole antenna.

1           8. The complex antenna apparatus as claimed in  
2 claim 7, wherein the base further comprises a through  
3 hole, the circular polarization antenna and capacitance  
4 (inductance) cylinder loading monopole antenna connected  
5 to the RF module via the through hole and central through  
6 hole of the base, respectively.

1           9. The complex antenna apparatus as claimed in  
2 claim 7, further comprising a demodulator connected to  
3 the RF module.

1           10. The complex antenna apparatus as claimed in  
2 claim 1, wherein the base is ceramic.

1           11. The complex antenna apparatus as claimed in  
2 claim 3, wherein the dielectric is Teflon.

1           12. A complex antenna apparatus, comprising:  
2 a base having a central through hole;  
3 a circular polarization antenna disposed on the base  
4 and having a hollow feeding portion  
5 corresponding to the central through hole; and

6 a linear antenna disposed in the central through  
7 hole of the base via the hollow feeding portion  
8 of the circular polarization antenna.

1 13. The complex antenna apparatus as claimed in  
2 claim 12, wherein the linear antenna is a monopole linear  
3 antenna.

1 14. The complex antenna apparatus as claimed in  
2 claim 12, wherein the linear antenna is a capacitance  
3 (inductance) cylinder loading monopole antenna.

1 15. The complex antenna apparatus as claimed in  
2 claim 14, wherein the capacitance (inductance) cylinder  
3 loading monopole antenna further comprises a monopole  
4 linear antenna and a conductive element covering the  
5 monopole linear antenna.

1 16. The complex antenna apparatus as claimed in  
2 claim 15, wherein the capacitance (inductance) cylinder  
3 loading monopole antenna further comprises a dielectric  
4 disposed between the conductive element and monopole  
5 linear antenna.

1 17. The complex antenna apparatus as claimed in  
2 claim 16, wherein the base further comprises a ground  
3 formed thereunder.

1 18. The complex antenna apparatus as claimed in  
2 claim 12, wherein the circular polarization antenna is  
3 circular.

1           19. The complex antenna apparatus as claimed in  
2           claim 12, wherein the circular polarization antenna is  
3           rectangular.

1           20. The complex antenna apparatus as claimed in  
2           claim 12, further comprising an RF module connected to  
3           the circular polarization antenna and linear antenna.

1           21. The complex antenna apparatus as claimed in  
2           claim 20, wherein the base further comprises a through  
3           hole, the circular polarization antenna and linear  
4           antenna connected to the RF module via the through hole  
5           and central through hole of the base, respectively.

1           22. The complex antenna apparatus as claimed in  
2           claim 20, further comprising a demodulator connected to  
3           the RF module.

1           23. The complex antenna apparatus as claimed in  
2           claim 12, wherein the base is ceramic.

1           24. The complex antenna apparatus as claimed in  
2           claim 16, wherein the dielectric is Teflon.